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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/924,797	08/08/2001	Dieter Klaubert	MBHB01-1071	2808

7590 04/07/2004  
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EXAMINER

GITOMER, RALPH J

ART UNIT PAPER NUMBER

1651

DATE MAILED: 04/07/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

<b>Office Action Summary</b>	<b>Application No.</b> 09/924,797	<b>Applicant(s)</b> KLAUBERT ET AL.	
	<b>Examiner</b> Ralph Gitomer	<b>Art Unit</b> 1651	

**-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --**

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 05 March 2004.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-14 is/are pending in the application.  
     4a) Of the above claim(s) 11-14 is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-10 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
     Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
     Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).  
     a) ☐ All    b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- |   |   |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)   | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)  | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)             |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____  |

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Applicant's election without traverse of Group I, claims 1-10, in Paper No. 5 is acknowledged. Note the typos in the specification such as on page 1 line 35, "impeable".

The title of the invention is not descriptive in view of the restriction requirement. A new title is required that is clearly indicative of the invention to which the claims are directed.

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(a) the invention was known or used by others in this country, or patented or described in a printed publication in this or a foreign country, before the invention thereof by the applicant for a patent.

Claims 1, 2, 4, 8 are rejected under 35 U.S.C. 102(a) as being anticipated by dePoorter.

dePoorter (J Microbiological Methods) entitled "Convenient Fluorescence Based Methods to Measure Membrane Potential and Intracellular pH in the Archaeon *M. thermoautotrophicum*" teaches on page 235 column 2, determination of membrane potential of cells with DiBAC1(3). On page 237 column 1, DiBAC1(3) is used as a probe to determine the membrane potential of cells.

All the features of the claims are taught by dePoorter for the same function as claimed.

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The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

Claims 3, 5, 6, 7, 9, 10 are rejected under 35 U.S.C. 103(a) as being unpatentable over the combination of dePoorter in view of Farinas.

dePoorter (J Microbiological Methods) entitled "Convenient Fluorescence Based Methods to Measure Membrane Potential and Intracellular pH in the Archaeon M. thermoautotrophicum" teaches on page 235 column 2, determination of membrane potential of cells with DiBAC1(3). On page 237 column 1, DiBAC1(3) is used as a probe to determine the membrane potential of cells.

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The claims differ from dePoorter in that the method includes an additional reagent and the specific equipment employed to make the assay.

Farinas (6,537,771) entitled "Use of Nernstein Voltage Sensitive Dyes in Measuring Transmembrane Voltage" teaches Nernstein dyes, see column 4 line 50 DiBAC2(3) for example, for measuring transmembrane potentials. In column 12 column 2 lines 13-16, DiSBAC3(3) has frequently been used in combination with UV light excitable  $\text{Ca}^{+2}$  indicators indo-1 or fura-2 for the simultaneous measurements of transmembrane potential and  $\text{Ca}^{+2}$  concentrations. In column 4 last paragraph, microfluidic formats are taught. See column 6 lines 29-48. In column 21 last paragraph bridging to column 22, the microfluidic device has a pipettor channel and microwell plates.

It would have been obvious to one of ordinary skill in this art at the time the invention was made to employ the additional reagent as shown by Farinas because Farinas performs the same method as presently claimed with a different but closely related DiSBAC compound plus employs the same additional reagent as presently claimed whereas dePoorter employs the same DiSBAC as presently claimed. Employing multiple indicators for performing assays such as the one presently claimed is well known in this art. The selection of known DiSBAC indicators for their known function with the expected result is obvious. Combining known indicators for their known function with the expected result is not novel in this art. No results are claimed.

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Further, it would have been obvious to one of ordinary skill in this art at the time the invention was made to employ the presently claimed equipment such as microplate readers and flow cytometers, Farinas teaches microfluidic devices which encompass the equipment presently claimed. To employ well known and old equipment for their known function to perform assays with the expected results lacks novelty. No unexpected results are seen in employing the presently claimed equipment all of which are well known for performing fluorescence assays.

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claims 1-10 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

In claim 1, there are extraneous marks around the structure which are confusing. In claim 2(c) "the fluorescence" lacks antecedent basis.

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Okun (6,287,758) teaches DiSBAC indicators.

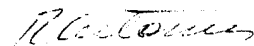
Tsien (6,596,522) teaches DiSBAC indicators.

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Any inquiry concerning this communication or earlier communications from the examiner should be directed to Ralph Gitomer whose telephone number is (571) 272-0916. The examiner can normally be reached on Monday - Friday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Michael Wityshyn can be reached on (571) 272-0926. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



Ralph Gitomer  
Primary Examiner  
Art Unit 1651

EXAMINER'S  
STAMP  
(Faint, illegible text)